(12) UK Patent Application (19) GB (11) 2 172 198 A

(43) Application published 17 Sep 1986

(21) Application No 8605567

(22) Date of filing 6 Mar 1986

(30) Priority data
(31) 8506631 (32) 14 Mar 1985 (33) GB

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(51) INT CL⁴
A47C 19/00

(52) Domestic classification (Edition H):
A4L 107 SB

(56) Documents cited
GB 1464307 GB 0232887 US 4391008
GB 0242540 GB 0209327

(58) Field of search
A4L
Selected US specifications from IPC sub-classes A47C
A61G

(54) Bed frames

(57) A bed frame 50 comprises four frame units 10, 20, 30, 40, each having two elongated frame members (11, 12, Fig. 1) two end members (13, 14) and a plurality of run members (15) parallel to the end members. The frame units 10, 20, 30, 40 are connected together at their respective ends to form a bed frame 50 which encloses a water filled mattress (not shown). The frame serves to keep the mattress in a regular shape whilst providing for the attachment of decorative panels 54, 56 to one or more of the frame units. These panels have one exterior face of a decorative nature, for example of coloured plastic or wood or covered in material having a relief motif or design. The decorative panels can be removed when so desired and replaced by others having a different covering, colouring or design on them.

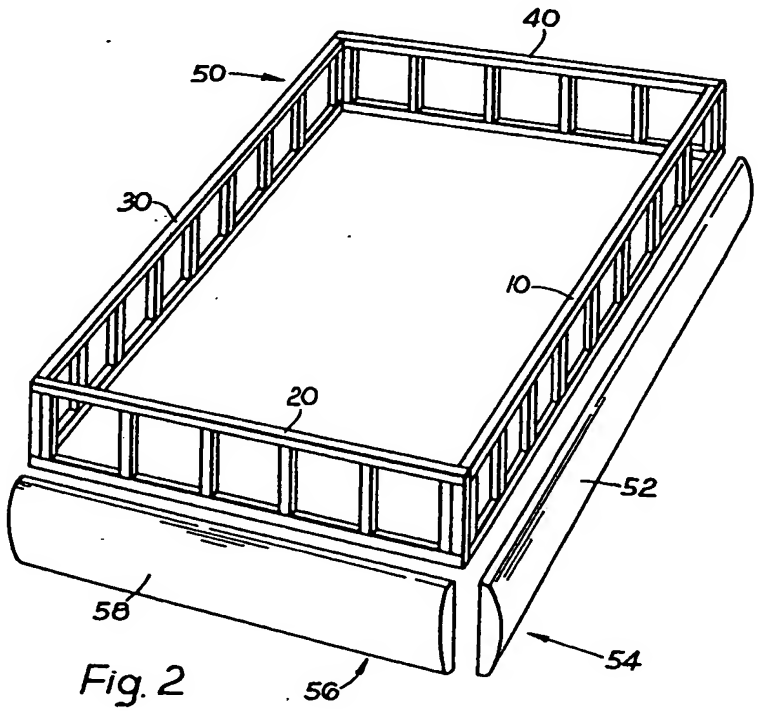

Fig. 2

The drawing(s) originally filed was/were informal and the print here reproduced is taken from a later filed formal copy.

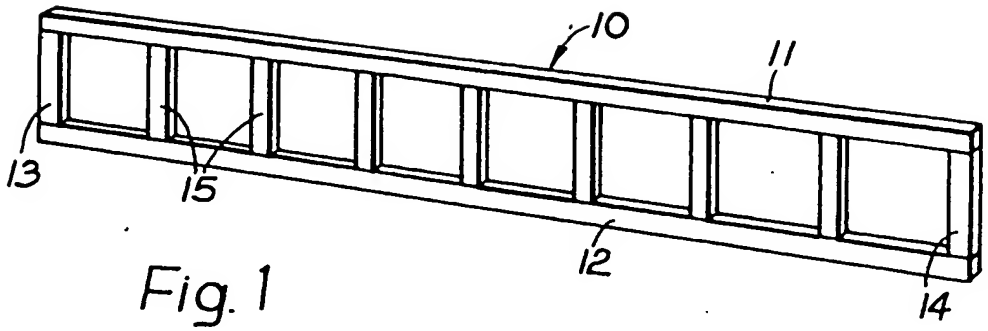

Fig. 1

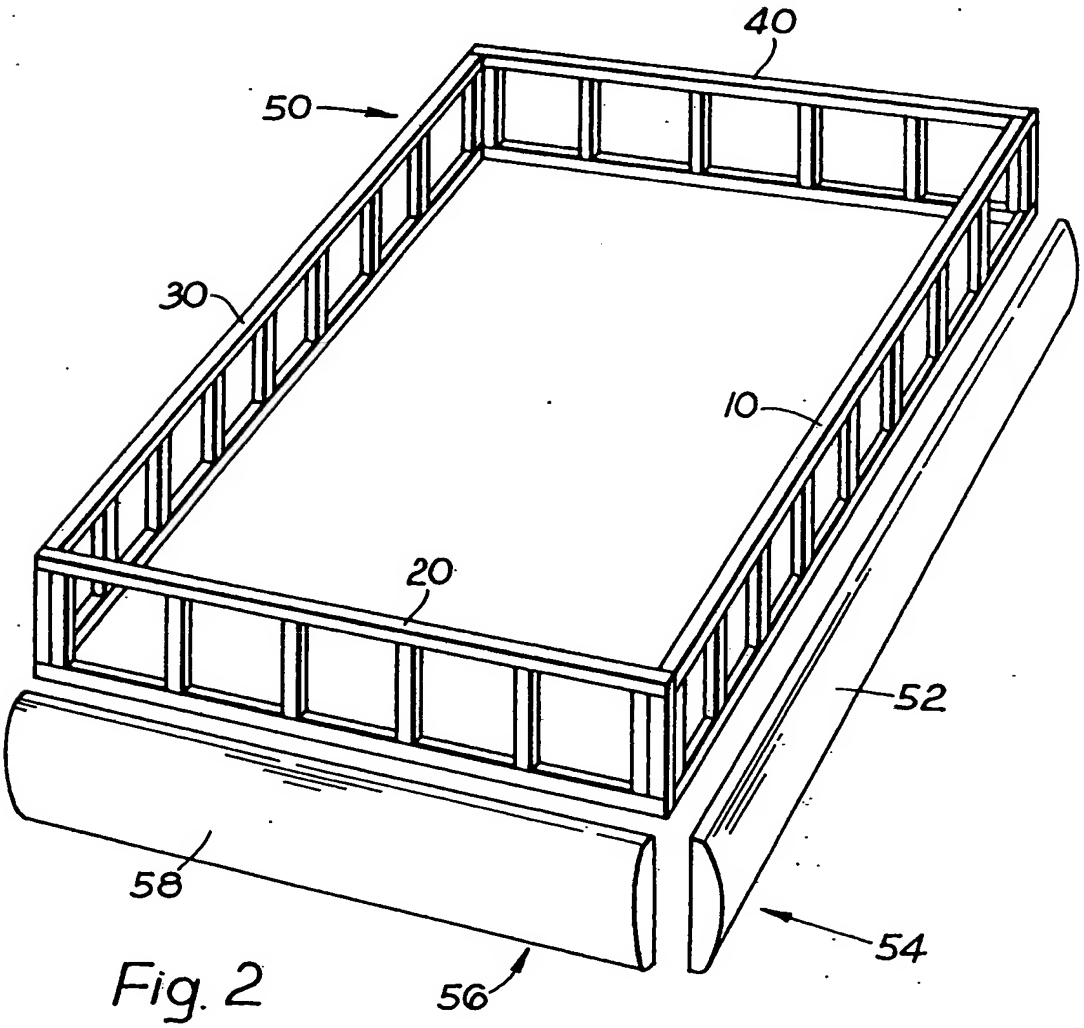

Fig. 2

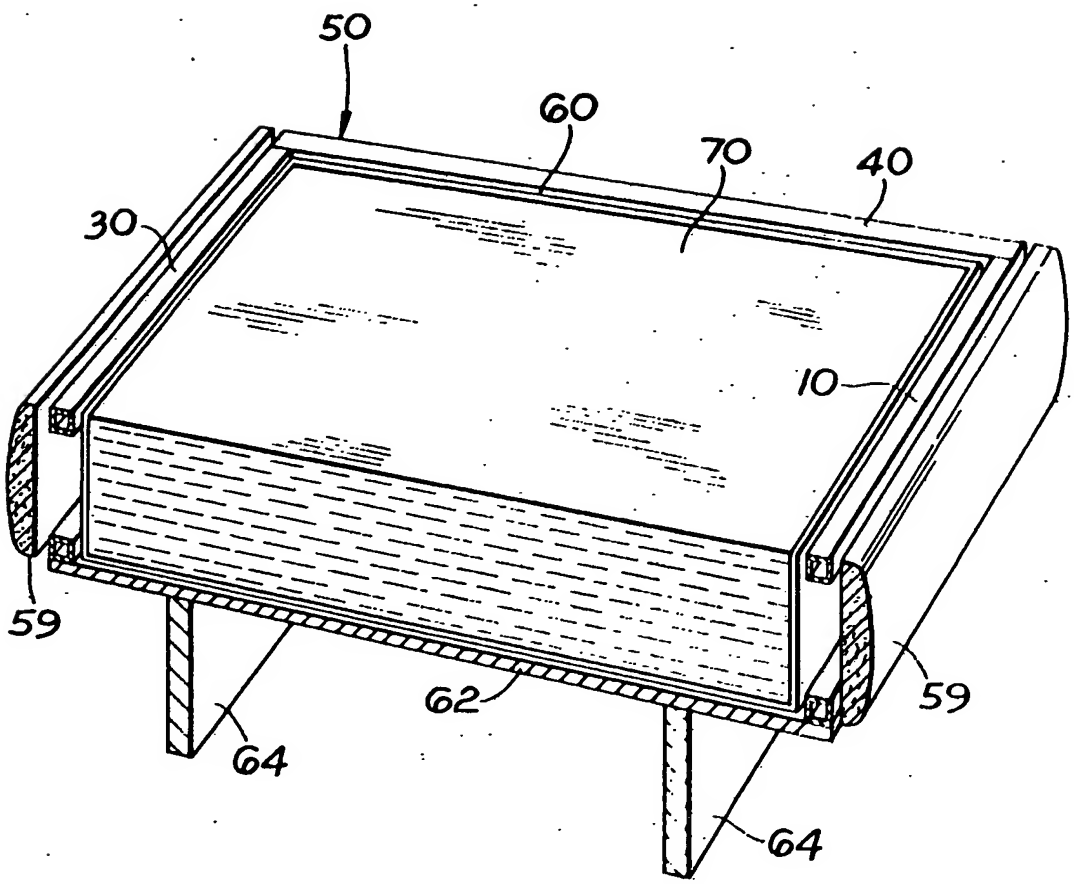

Fig. 3

SPECIFICATION

Bed frames

This invention concerns bed frames, in particular bed frames for waterbeds.

In a known construction of a water bed it is usual to provide a frame surrounding and supporting a water filled mattress. Hitherto this framework has been of solid wood planks. Wood planks have been used because they are relatively light compared to the substantial weight of the water filled mattress and posess an adequate strength to support the mattress. A disadvantage of this construction is that the exterior surface of the frame is plain wood and its appearance can not be greatly altered. Furthermore any change is of a fairly permanent nature and cannot easily be altered again. It is also possible for the wood to distort or warp due the weight of the water filled mattress.

An object of the present invention is to provide a bed frame which is light in weight, has a high structural strength and can have its exterior surface appearance altered.

Pursuant hereto the present invention provides a bed frame comprising a plurality of frame units connected together to provide a bed frame, each frame unit having two frame members disposed substantially parallel to each other, respective ends of each frame member being connected together by respective end members and a plurality of run members disposed parallel to the said end members, each frame unit being provided with means to allow the attachment of a decorative exterior panel.

Preferably the frame is of metal. The particular construction of the frame will allow a lightweight metal such as aluminium to be used whilst still providing the required structural strength, and with the frame being unduly heavy. In order to reduce weight of the frame it is preferably to have the frame members and the end members hollow in profile. Furthermore to facilitate the attachment of the decorative panels the members are preferable square.

Advantageously the decorative exterior panels are adapted to allow attachment and unattachment of the panels from their respective frame unit so that they may be replaced by other panels such as upholstered or coloured panels. This feature allows the decorative nature of the frame to be altered according to individual taste. This can preferably be accomplished by providing each of the frame units with a plurality of spring clips and having the decorative panels adapted to engage with the spring clips. Alternatively adhesive coated pads are provided to allow attachment of the decorative exterior panels to their respective frame units.

Preferably the frame units are connected together by means of nuts and bolts at predetermined positions.

Advantageously provision is made to allow the attachment of interior panels to each frame unit. These panels protect the water-filled mattress and its liner from the metal frame. The interior panels can be either a permanent fixture or be detachable.

The invention will be described further by way of example, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a preferred embodiment of a frame unit of the invention;

Figure 2 is a perspective view of a number of the frame units of Fig. 1 assembled into a bed frame; and

Figure 3 is a cross sectional view of a bed frame and a water bed according to the invention.

Referring firstly to Figs. 1 and 2 of the drawings, the preferred embodiment of the bed frame of the invention comprises four frame units referred to by the numerals 10, 20, 30, 40. A frame unit 10 has two frame members 11, 12, preferably of metal, of square cross section and substantially similar dimensions disposed parallel to one another. The two members 11, 12 are connected to one another at their respective ends by respective end members 13, 14, also preferably of square cross-section metal and of substantially similar dimensions to one another. Positioned in between the end members 13, 14 and attached to the two frame members 11, 12 are a number of run members 15 which provide the structural stability of the frame unit 10. The run members 15 are of substantially similar dimensions and act as spacers to maintain the frame members 11, 12 at a predetermined distance apart.

The number of run members 15 depends on the length of the frame members 11, 12 and the structural strength required. In the preferred embodiment illustrated the run members 15 are spaced at approximately 12 to 18 inch intervals. A larger spacing will, of course, result in a frame unit 10 having a lower structural stability.

Frame units 20, 30, 40 are formed in a similar manner to frame unit 10 each having respective frame members, end members and a number of run members in accordance with their respective length.

Fig. 2 shows the four frame units 10, 20, 30, 40 assembled into a bed frame referred to generally by the reference numeral 50. For an average sized water bed frame units 20 and 40 will be shorter than frame units 10 and 30. Commonly the longer side, frame units 10, 30, will be approximately 7ft. long and the shorter, frame units 20, 40, approximately 5ft. long. A decorative panel 54 is attached to frame unit 10 by means of tape, glue or clips, (not shown) so that its decorated side 52 is to the outside of the bed frame 50. A second

decorative panel 56 is attached to frame unit 20 in a similar manner so that its decorated side 58 is to the outside of the bed frame 50. Further decorative panels (not shown) can be affixed to each of the frame units as desired. These decorative panels may be coloured plastic or wood or have relief motifs or designs on them. Alternatively they could be of upholstered design. As the panel 54 can be detached from the frame unit the panel 54 can be replaced by a panel (not shown) having a different decorated side. These decorative panels are of similar dimensions as the frame unit to which they are attached so that the bed frame (50) is completely enclosed by the decorative panels.

Fig. 3 illustrates a cross-sectional view of an assembled water bed having a water filled mattress 70 encased in a safety liner 60. A bed frame 50 comprising frame units 10, 20 (not shown), 30, 40 serves to confine the mattress 70 to a regular shape within the bed frame 50. The frame units 10, 20, 30, 40 are attached to a base 62. It is common to support the base on a pedestal 64 which raises the mattress off the ground. The pedestal 64 is either of solid construction or is a frame, of generally smaller dimensions than the bed frame 50 and having internal supports to support the base 62 and mattress 70. Decorative upholstered panels 59 are attached to frame units 10, 30 respectively. Further upholstered panels (not shown) are attached to frame units 20, 40 (not shown in this figure).

The invention is not restricted to the precise details of the illustrated embodiment and variations may be made thereto. Thus the number of run members could be altered and the frame units could be made out of a material other than metal for example plastic or wood. Further the frame members, end members and/or run members can be hollow to reduce the weight. The dimensions quoted are only given as examples and can be altered as desired. Interior panels may be attached to each frame unit to protect the safety liner from damage. Furthermore the pedestal 64 on which the bed frame stands may be constructed from frame units according to the invention as may any internal supports within the pedestal 64. Other variations may also be possible.

CLAIMS

1. A bed frame comprising a plurality of frame units connected together to provide a bed frame, each frame unit having two frame members disposed substantially parallel to each other, respective ends of each frame member being connected together by respective end members and a plurality of run members disposed parallel to the said end members, each frame unit being provided with means to allow the attachment of a decorative exterior panel.

2. A bed frame as claimed in claim 1 wherein the decorative exterior panels are adapted to allow attachment and unattachment of the panels from their respective frame units.

3. A bed frame as claimed in claims 1 or 2 wherein interior panels are provided for attachment to the frame units.

4. A bed frame as claimed in claims 1, 2 or 3 wherein the frame units are each provided with a plurality of spring clips and the decorative panels are adapted to engage with the clips.

5. A bed frame as claimed in claims 1, 2 or 3 wherein the frame units are provided with adhesive coated pads disposed to allow attachment of the decorative exterior panels.

6. A bed frame as claimed in any preceding claim wherein the frame units are connected together by bolts located at predetermined positions.

7. A bed frame as claimed in any preceding claim wherein the frame members and the end members are square in cross-section.

8. A bed frame as claimed in any preceding claim wherein the frame members and the end members are of metal.

9. A bed frame as claimed in claim 8 wherein frame members and the end members are hollow.

10. A bed frame substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

Printed in the United Kingdom for
Her Majesty's Stationery Office, Dd 8818935, 1986, 4235.
Published at The Patent Office, 25 Southampton Buildings,
London, WC2A 1AY, from which copies may be obtained.